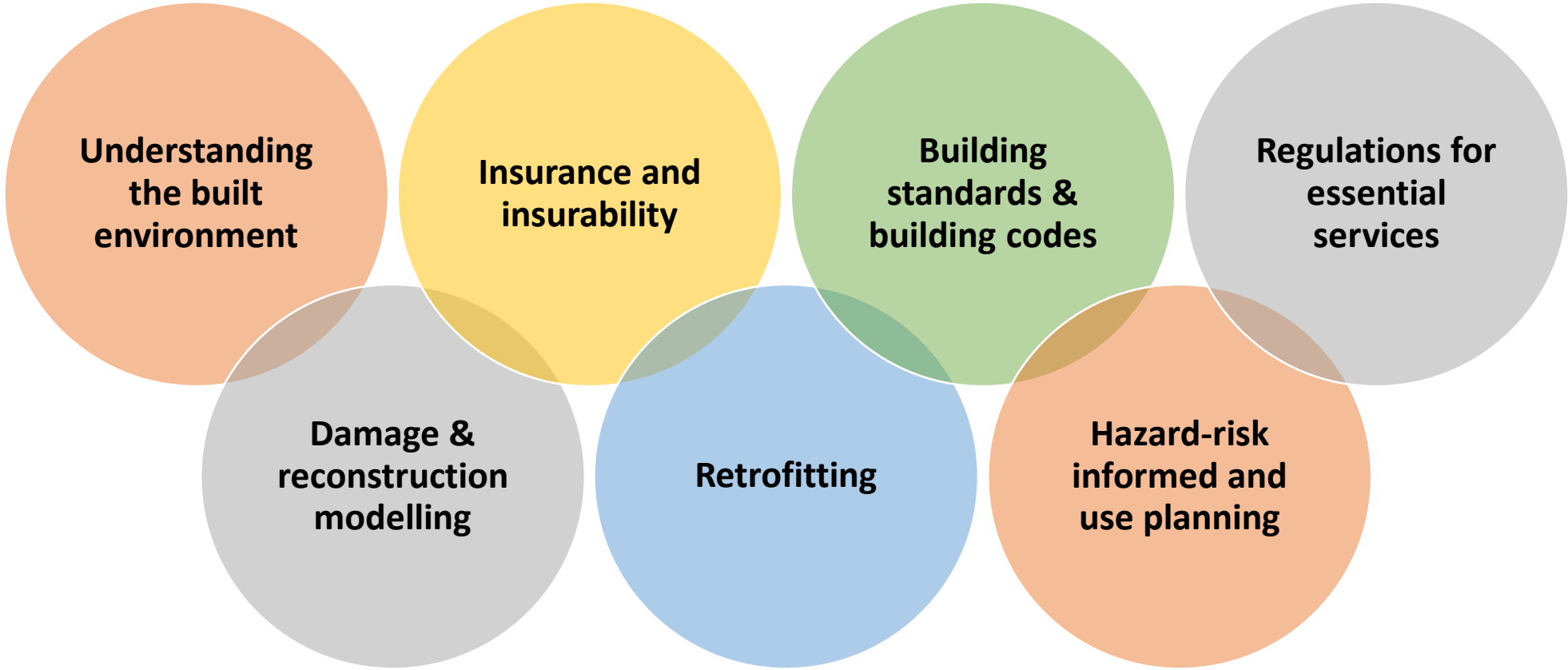
Natural Hazards Research Australia

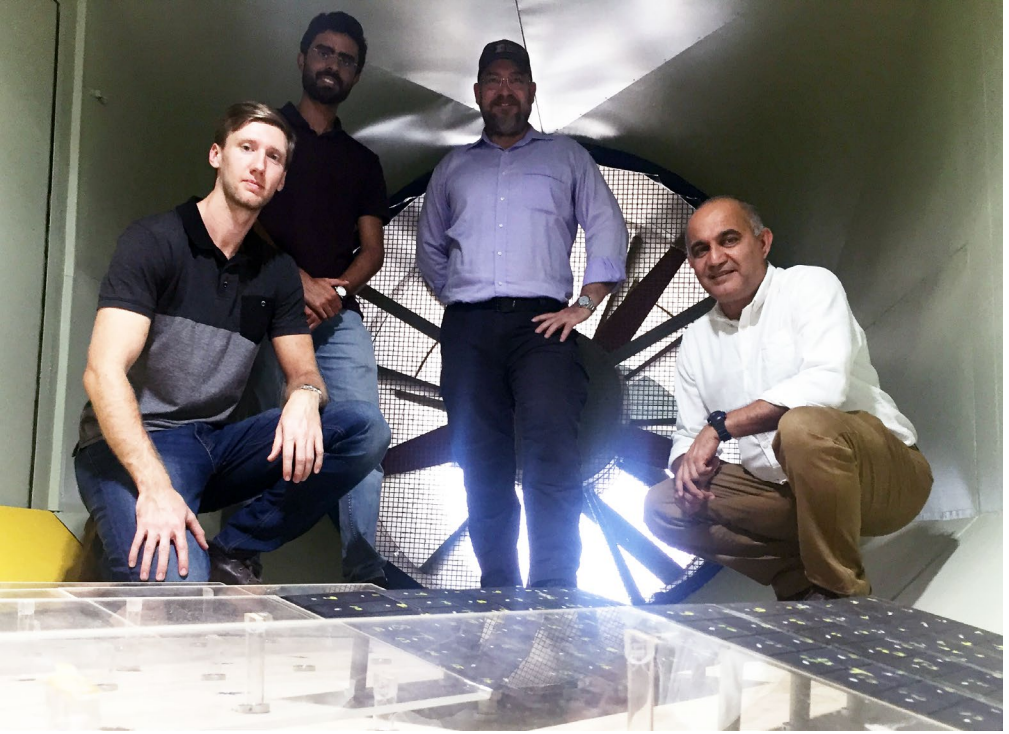
RESILIENT & SUSTAINABLE BUILT ENVIRONMENTS
Research Context

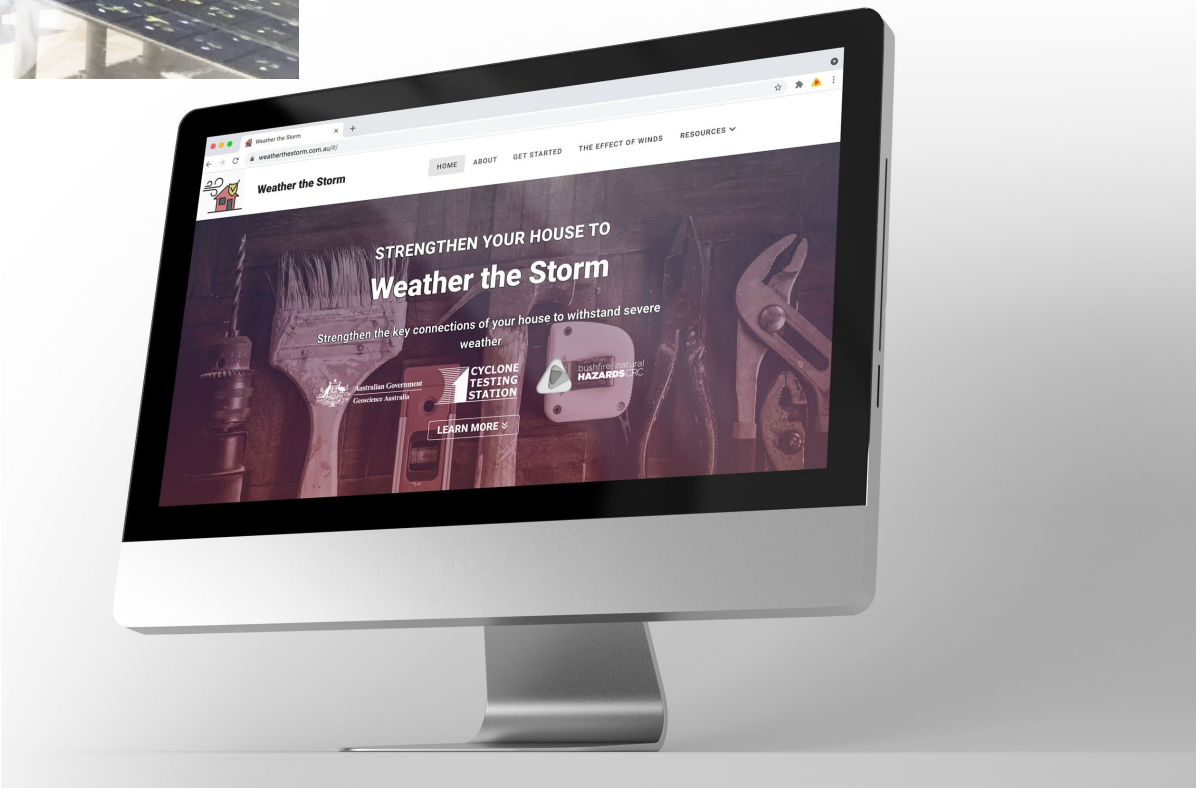
Desiree Beekharry

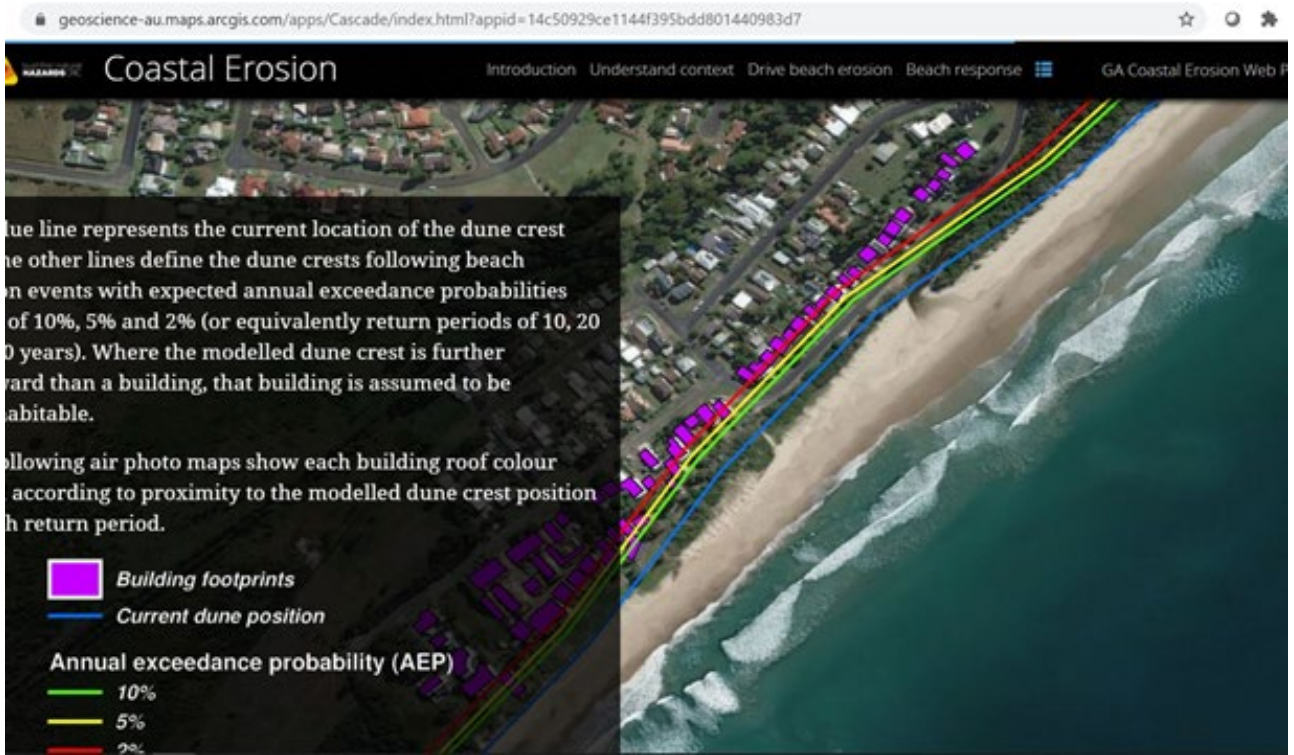
19 August 2021 | 11am AEST

Research areas









HAZARD **NOTE**

bushfire&natural HAZARDSCRC

ISSUE 40 OCTOBER 2017
TOPICS IN THIS EDITION | ECONOMICS | ENGINEERING | FLOOD | MITIGATION

COSTS AND BENEFITS OF FLOOD MITIGATION IN LAUNCESTON

Above: FLOODWATERS IN ROYAL PARK, LAUNCESTON, DURING THE JUNE 2016 FLOOD. PHOTO: UPSTICKSNGO_CREW CC BY 2.0.

ABOUT THIS PROJECT

This flood risk mitigation assessment for Launceston was conducted as part of the *Cost-effective mitigation strategy for flood-prone buildings* project. It was carried out in collaboration with the City of Launceston, the Launceston Flood Authority, the Tasmanian Department of Premier and Cabinet, Northern Midlands Council, Tasmania State Emergency Service and Geoscience Australia.
Download the full report at www.bnhcrc.com.au/hazardnotes/40

AUTHORS

Dr Tariq Maqsood, Martin Wehner, Dr Itismita Mohanty, Neil Corby and Mark Edwards, Geoscience Australia.

SUMMARY

With Launceston experiencing severe flooding in June 2016, this project reviewed the costs and benefits of mitigation work (upgraded levees) which began in 2010. Flood mitigation is an expensive exercise, and this research highlights the benefits through avoided impacts of the flood levee mitigation program, against the cost of construction.

Findings show that the upgrading of the levee system, completed in 2014, resulted in avoiding losses of about $216 million (had the pre-existing levees failed), which is approximately four times the total investment in the new levee system. This investment in building the new levee system was found to be a sound economic decision based on the estimated costs at the time of decision making, alongside improved estimates of benefits from this study. The actual benefits of these mitigation works to the community extend beyond the direct benefits as assessed in this project, to the intangible and indirect benefits that have not been included.

It was found that sea level rise scenarios would only have a limited impact on building losses. However, the combined impact of sea level rise and increased rainfall intensity due to climate change on the total losses may be significantly greater and could be further investigated.

CONTEXT

The nature of recent flood mitigation works and the specific nature of the June 2016 flood provide a sound opportunity to assess the cost benefits of the Launceston levee system. This assists in developing an evidence base for future investment in mitigation.

BACKGROUND

Located within the Tamar River floodplain at the confluence of the Tamar, North Esk and South Esk Rivers in Tasmania, Launceston is a flood-prone city. There have been 35 significant floods, with the 1929 flood considered the worst. In the 1960s, a ten kilometre flood levee system was constructed to mitigate the risk. The levee system was upgraded from 2010 to 2014, expanding to 12 kilometres of earth levee, 700 metres of concrete levee and 16 floodgates. Following significant flooding in June 2016, this project conducted a cost benefit analysis of this new levee system.

BUSHFIRE AND NATURAL HAZARDS CRC RESEARCH

This study assessed many factors related to the flood risk in Launceston:

- What was the avoided damage costs as a result of the 2010 to 2014 levee upgrade?